Annexure-A1

GUARANTEED TCHNICAL PARTICULARS OF ACSR MOOSE CONDUCTOR

Sr. No.	Description	Unit	Guaranteed Value
01	Conductor/ Code Name		ACSR MOOSE
02	Manufacturing Standard		IS 398'(Oart 5) : 1992 &
03	**Stranding and wire diameter**		
a	Aluminium	No/mm	54/3.53 mm
b	Steel wire	No/mm	7/3.53 mm
3.1	**Layer & no. of wire**		
a	Steel wire	No	1
b	1st steel layer	No	6
c	1st Aluminium layer	No	12
d	2nd Aluminum layer	No	18
e	3rd Aluminum layer	No	24
04	**Raw Materials**		
4.1	Overall diameter		
a)	Minimum purity of Aluminium	%	99.5
b)	Maximum copper content	%	0.04
4.2	**Steel wires/rods**		
a)	Carbon	%	0.50 to 0.85
b)	Manganese	%	0.50 to 1.10
c)	Phosphorous	%	Not more than 0.035
d)	Sulphur	%	Not more than 0.045
e)	Silicon	%	0.10 to 0.35
4.3	Minimum purity of Zinc	%	99.95
5	**Aluminium strands after stranding**		
5.1	Diameter		
a)	Nominal	mm	3.53
b)	Maximum	mm	3.55
c)	Minimum	mm	3.51
5.2	Sectional area of Nominal Diameter	sq. mm	9.787
5.3	Nominal weight (approx.)	kg/km	26.45
5.4	Minimum breaking load of strand		
a)	Before stranding	KN	1.57
b)	After stranding	KN	1.49
5.5	Maximum DC Resistance at 20 °C	Ω/km	2.921
6	**Steel strand after stranding**		
6.1	Diameter		
a)	Nominal	mm	3.53
b)	Maximum	mm	3.59
c)	Minimum	mm	3.47

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St. No.	Description	Unit	Guaranteed Value	
6.2	Sectional area of Nominal Diameter	sq. mm	9.787	
6.3	Nominal weight (approx.)	kg/km	76.34	
6.4	Minimum breaking load of strand			
a)	Before stranding	KN	12.86	
b)	After stranding	KN	12.22	
6.5	**Galvanising**			
a)	Minimum weight of zinc coating per sqm	gm	250	
b)	Minimum number of dips that the galvanized strand can with stand in the standard preece test	Nos.	2 of one minute & 1 of half minute	
c)	Min. No. of twists in torsion test	Nos.	16	
d)	Minimum % Elongation on 250mm Gauge length	%	3.5	
7	**Stranded Conductor**			
7.1	Overall diameter	mm	31.77	
7.2	Sectional area of Aluminium	sq. mm	528.5	
7.3	Total sectional area	sq. mm	597	
7.4	Minimum UTS of the conductor	kN	161.2	
7.5	Lay ratio of Outer Steel & Aluminium		Max	Min
a)	1st steel layer		18	16
b)	1st Aluminium layer		14	12
c)	2nd Aluminium layer		13	11
d)	3rd Aluminium layer		12	10
7.6	Maximum DC resistance of the conductor at 20°C	ohm/km	0.05552	
7.7	Direction of lay of outer layer		Right Hand	
7.8	Linear mass of the conductor			
a)	Standard	kg/km	2004	
b)	Minimum	kg/km	1969	
c)	Maximum	kg/km	2040	
7.9	Final modulus of elasticity	GN/m²	69	
7.10	Coefficient of Linear expansion conductor	/ °C	19.3×10^{-6}	
a)	Coefficient of Linear expansion of Aluminum	/ °C	23.0×10^{-6}	
b)	Coefficient of Linear expansion of Steel	/ °C	11.5×10^{-6}	
7.11	Minimum corona Extinction voltage (Line to ground) (Dry)	kV (rms)	305	
7.12	RIV at 1 MHz at 305kV (rms) under Dry condition	Micro volts	1000 Max	

20/11/12

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